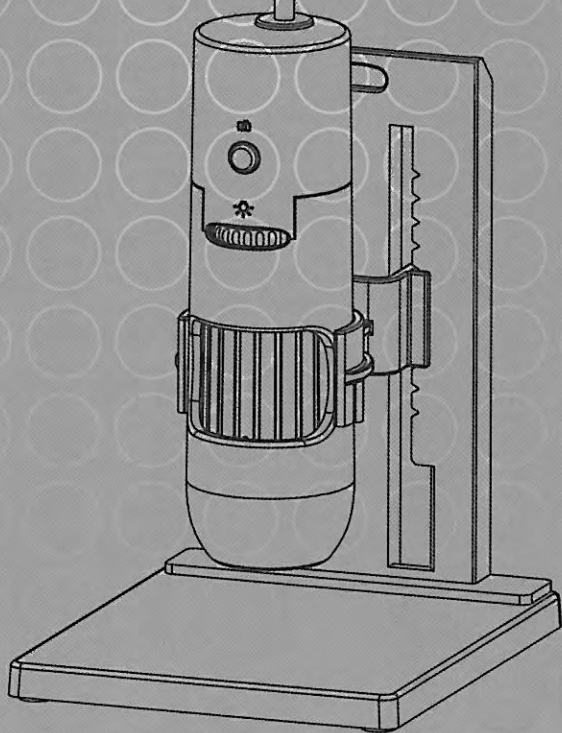


# Digital Microscope

*-User Manual-*

Serial # VSVC4EM00003419VZ



# Contents

Product Feature/Specifications.....	1
Contents.....	2
PC System Requirements.....	2
Driver installation Procedure.....	2
Getting Started.....	2
Application Software.....	6
Install.....	6
Software application.....	7
Function Key Lists.....	8
Compare.....	9
Video Setup.....	10
Preview picture mode.....	11
Measurement Function.....	12
Q & A.....	15

## 200X Digital Microscope/500X Digital Microscope

### Features

The 200X digital microscope provides 10~200X adjustable magnification range, and 500X microscope provides 500X magnification. The built-in high-performance white LED can illuminate objects without using any auxiliary light. By adjusting the focus knob on the side, the magnified image can be displayed, captured and recorded on your computer (640X480) & SXGA(1280X1024) resolution directly.

### Specifications

- Image Sensor : 1/4" Color CMOS image sensor
- Effective Pixels : 1280 (H) x 1024 (V) pixels
- Signal Output : Serial data for USB standard compliant 2.0
- Gain Control : Auto Gain Control (AGC)
- White Balance : Automatic
- Snap Shot Mode : Hardware/Software controllable
- Power Source : 5VDC through USB port
- Power Consumption : 110mA (AVG)
- O/S : Windows XP / VISTA / Windows 7
- Fixed magnification for 50X and 200X digital microscope : 10X~200X range
- CE, FCC and RoHS Compliant

### Applications

- Skin Exam
- Scalp Exam
- Industrial Inspection e.g. Printing Circuit Board(PCB)inspection
- Electronics Device inspection
- Visual Assistance
- Printing Inspection
- Textile Inspection
- Paper Money Inspection
- Jewelry Inspection
- Science Education

1

### Contents

- Digital Microscope Device
- CD
- User manual
- Stand



### PC System Requirement

- Pentium 4 Class CPU
- 128 MB of system RAM
- One USB 2.0 port or above
- VGA system with at least 16bit color support
- UVC: Windows XP SP2 or above

### Driver Installation Procedure

This device supports "Universal Video Class" driver, no additional driver required. Plug in device and system will install driver automatically.

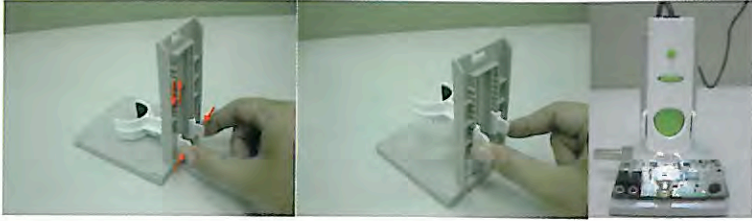
### Getting Started

1. Stand assembly:



- a.) Push and Lock the stand.

2



- b.) Press the holder, pull up and down to adjust distance between microscope and object.
- c.) Place microscope on the stand holder.

2. Insert the software installation CD into CD-ROM drive, the software will install automatically. (fig.1)

3. Plug the USB cable into the PC USB port. (fig.2)



(fig.1)



(fig.2)

4. Double Click 【MicroViewer】 icon, image will show up. (fig.3)



(fig.3)

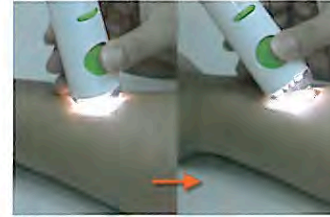


(fig.4)

3

6. Use the focus knob until the image is clear. In order to get a 3D image, tilt the digital microscope slightly. (fig.5)

7. The digital microscope can be used to produce various magnifications. The closer you put the digital microscope to the object, the greater the magnification. (fig.6)



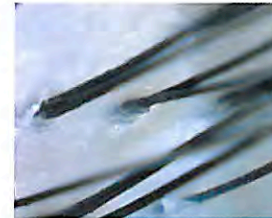
(fig.5)



(fig.6)

8. A clear image can be produced by adjusting the focus knob as well as changing the distance between the object and the digital microscope. (fig.7)

9. If the image is blurred, adjust the focus knob to the right and view the image of the object in lower magnification first. (fig.8)



(fig.7)



(fig.8)

10. When magnifying an object, adjust the focus knob slightly to the left and move the digital microscope up and down until a clear image shows up. (fig.9)



(fig.9)

4

11. If the object has varying depths or if 50X or higher is not needed, lift the digital microscope a little bit and adjust the focus knob to the right slightly until you get a clear image.(fig.10)



(fig.10)

12. If the object is too dark or bright, adjust the light knob to get the light you need. Turn right to get brighter light and left to get darker light.(fig.11)



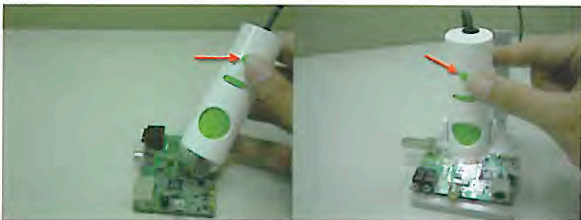
(fig.11)

13. When using high magnification to observe a specific area of the object, we suggest placing the digital microscope on the stand holder to get clear image.(fig.12)



(fig.12)

14. Use the image capture button to capture image.(fig.13)



(fig.13)

## Application Software

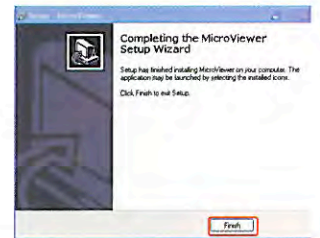
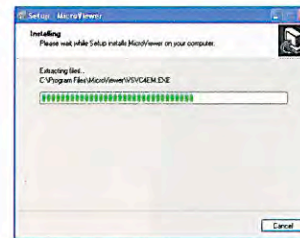
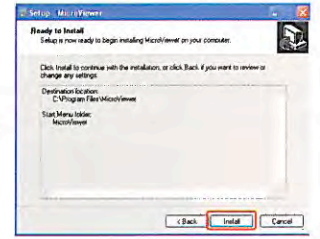
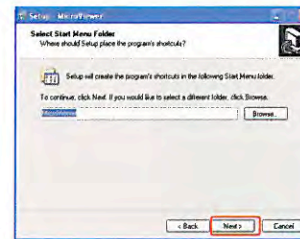
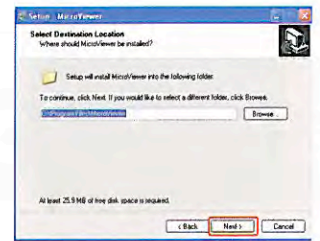
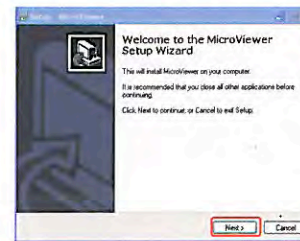
### Install

1.Please insert the software installation CD into CD-ROM drive, the installation program will show up automatically.

(If the software installation program didn't show up, please double click AutoRun.exe in the CD-ROM folder)

2.Please click MicroViewer button for installing MicroViewer software.

3.Install the MicroViewer program.





## Compare

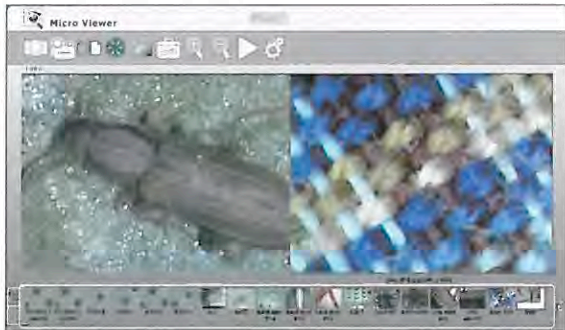
Please click the Compare button, and the compare window will show up.

**Warning:** To get better operation, the screen resolution requirement is at least 1440\*900 pixel



Live image shows in the left zone, and you can drag a picture in the list bar to right zone.



It supports freeze function to compare two images.

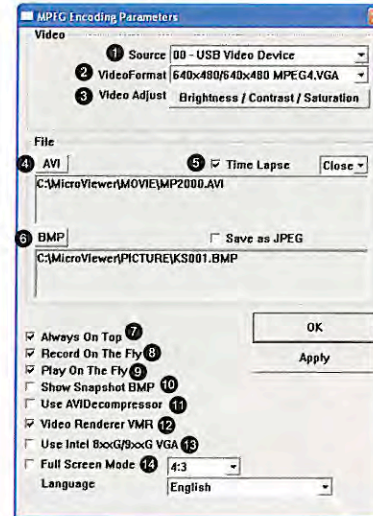


It also supports dragging two pictures and compare two existing pictures.

4. After comparison, please click  (Go Back button) or  (Compare button) to back normal mode.

## Video Setup

Click the Setup button, the following window will show up:



① Source : It allows user to choose the image source if there are more than one microscopes connecting the PC.

② Video Format : It supports two options: 640\*480 or 1280\*1024.

Note: The Snapshot and Record format will be changed at the same time.

③ Video Adjust : Change the Video values.

④ AVI : Set up the video saving location and file name.

⑤ Time Lapse : If you need time-lapse function, please mark the box and select the time-lapse rate.

Warning: If you open time-lapse function, please make sure the recording time is longer than the ratio time.

Ex: Choose 60s:1s, the real recording time must be longer than 60 seconds.

⑥ BMP : Set up the picture saving location and file names.

If you want to save JPEG files, please mark the "Save as JPEG" box".

⑦ Always On Top : If you mark this box, the MicroViewer window will always be on the top layer.

⑧ Record On The Fly : Recording on the fly.

⑨ Play On The Fly : Play the latest video automatically.

⑩ Show Snapshot BMP : After snapshot, the preview window will show up.

⑪ Use AVIDecompressor : Under some special computers, live zone shows abnormal image. Please mark this box to solve this problem.

⑫ Video Renderer VMR : Please mark this box for most computers.

⑬ Use Intel 8xxG/9xxG VGA : Under some special computers with Intel chip, live zone shows abnormal image. Please mark this box to solve this problem.

⑭ Full Screen mode : If the full screen mode box is marked, MicroViewer will start on full-screen mode automatically.

- 4:3 : Live zone will keep in 4:3 aspect ration. This mode is suitable for measurement.
- FULL : The screen will be filled with live zone. Objects would be expanded possibly.
- ICON : The Screen will be filled with MicroViewer, and all function buttons will be kept. In this mode, image will be expanded and it is not suitable for measurement.

## Preview picture mode

Drag the picture to the live zone or just double click the picture in the list bar. The Image will show in the live zone for editing.



### Drawing mode :

Click the Drawing mode button, Microsoft Paint will show up. After editing, please close Microsoft Paint, and the image will update automatically.



### Save file :

Click this button to save as a new file. New file name will be renamed by date and time.  
Hot key : S.



### Compare :

Enter Compare mode (Please see the Compare chapter for more detail).  
Hot key : C



### Delete :

Delete the picture or you can also hold the picture in the list bar by the left button of mouse and drag to the Delete icon.  
Hot key : D.



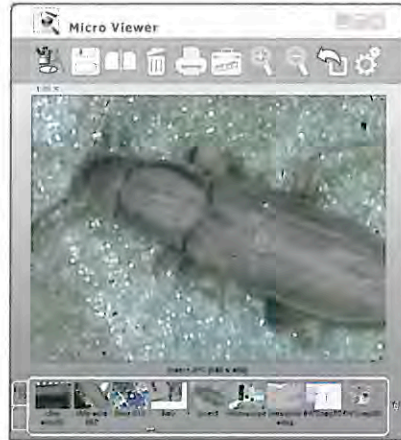
### Print file :

Print this picture.



### Measurement :

Measure lines, circles, angles, rectangles, triangle or radii. (Please see the Measurement chapter for more detail).  
Hot key : M



### Zoom in / out :

Select the zoom-in and zoom-out function on live image or existing pictures. The maximum of magnification is 6x, and it support arrow keys on the keyboard to move the image zone.  
Hot key : + , -



### Go Back :

Back to the live mode.

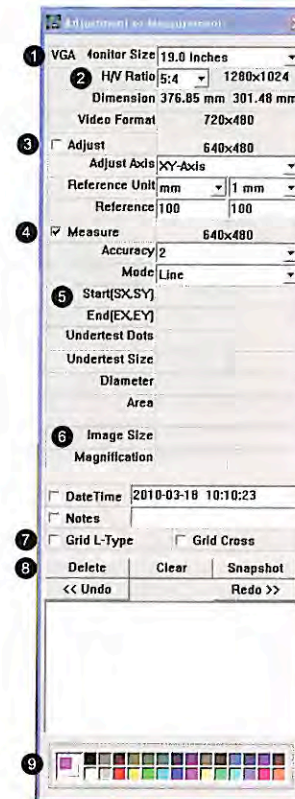
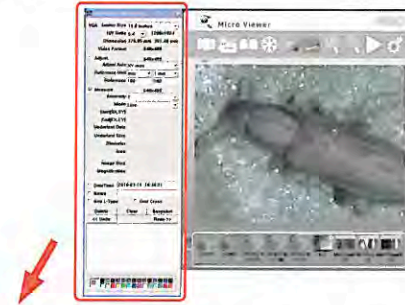


### Video Setup :

Setup window. (Please see the Video Setup chapter for more detail).  
Hot key : V

## Measurement Function

Click Measurement button, and the measurement window will show up. You can measure the live image or existing pictures.



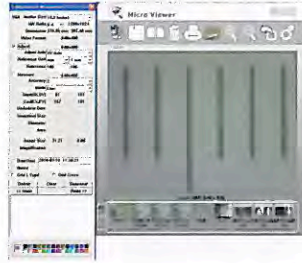
### Instruction of Measurement window:

- 1 VGA monitor size : Please select the monitor size.
- 2 H/V ratio : Select monitor aspect ratios.
- 3 Adjust : Adjust the calibration.  
Adjust axis : X axis /Y axis /X-Y axis.  
Reference Unit : Please select a unit of measurement and calibration. There are three units: mm/inch/mil
- 4 Measure : Choose the measurement type.  
Accuracy: The number is accurate up to the 9th digit after decimal point.  
Mode : Please choose a measurement mode from the following options: Angle / Circle / Ellipse / Line / Rectangle / Triangle / 3DotsRadius.
- 5 Data of the measurement.
- 6 Remarks : It supports Time and Notes.
- 7 Ruler guides : Mark the L-type or Cross if you need this function.
- 8 Record history :  
Record the measurement actions. It allows user to delete a record or clear all history records.  
After finished the measurement, just press Snapshot button to save this picture.
- 9 Choose the color of the line and words.

### Measurement - Adjust(Calibrate)

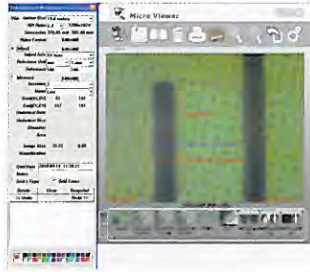
First, mark the "Adjust" box. Second, keep pressing the right button on the mouse at the start point. Third, drag the mouse to the second point and release.

Note: Please calibrate before measurement. And please calibrate again if you change the focal distance or height of the object.



### Measurement - Measure :

Mark the Measure box. Then select accuracy type and mode. There are several measurement functions: Angle / Circle / Ellipse / Line / Rectangle / Triangle / 3DotsRadius. Click the right button on the mouse and drag the line or angle on the image. After finish all the measurement, click the Snapshot button on the measurement window to save the image.



### • Angle Measurement :

Measure the angle: Click the right button on the mouse and drag. Then, click the right button on the mouse on the original point, and drag to extend out.



### • Circle measurement :

Measure the circle: Click the right button on the mouse at the upper left of the object, and drag to the lower right of the object. The D means diameter; A means area.



### • Ellipse Measurement :

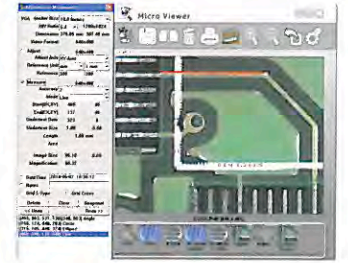
Measure the ellipse: Click the right button on the mouse at the upper left of the object, and drag to the lower right of the object.

The D means X axis diameter and Y axis diameter; A means area.



### • Line Measurement :

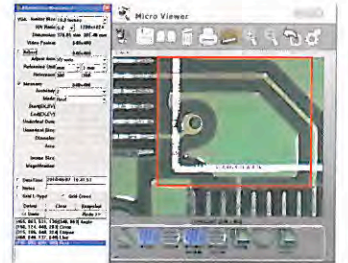
Measure the length: Click the right button on the mouse and drag to desired length and release. The length of the line will show automatically.



### • Rectangle Measurement :

Measure the Rectangle: Click the right button on the mouse at the upper left of the object, and drag to the lower right of the object.

The number means Length x wide = area.



### • Triangle Measurement :

Measure the triangle: Click the right button on first point of the object, click the second point, and release the right button at the third point.

The number means base x height / 2 = area.



• **Radius Measurement :**

Measure the radius: Click the right button on the first point of the arc, click the second point and then release the button on the third point.

R means radius, A means angle, L means arc.



**Q&A :**

1.After inserting the software installation CD into CD-ROM drive, why the installation doesn't install automatically?

ANS : Please double click the CD-ROM drive on your computer, and double click the AUTORUN.EXE.

2.Why the image lags after I mark the "Use AVIDecompressor" box on the Video Setup window?

ANS : The Use "AVIDecompressor" function doesn't support Windows XP SP3 or above.

3.Why the measurement number is wrong?

ANS : Please calibrate before measurement.(Refer to page 13)

Note: Please calibrate again if you change the focal distance or height of the object.

4.Why the monitor twinkles under the measurement mode?

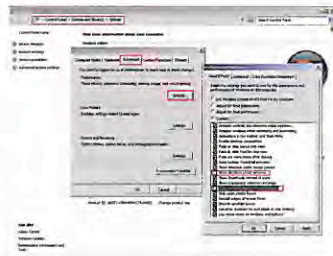
ANS : Please set the system by the following steps:

Start→Control Panel Home→System→Advanced→

Performance→Setting

Then release the "Show shadows under windows" and

"Show window contents while dragging"



5.Why the recording file show error message when I open the time-lapse function?

ANS: If you open time-lapse function, please make sure the recording time is longer than the ratio time.

EX: Choose 60s:1s, the real recording time must be longer than 60 seconds.

